

command object that is appropriate for the data, wherein the mapping mechanism is accessed by the interface;

computer code for obtaining the command object that is appropriate for the data, wherein the mapping mechanism obtains the command object and passes the obtained command object to the interface;

computer code for binding the command object to the data, wherein the interface binds the command object to the data;

computer code for returning the command object to the application, wherein the interface returns the command object to the application; and

a computer-readable medium that stores the computer codes.

23. A computer-implemented framework for associating data with a command object, the command object being arranged to operate on the data, wherein the data is associated with a selected application, the computer-implemented framework comprising:

a data handler mechanism arranged to interface with a plurality of applications, the plurality of applications including the selected application, wherein the data handler mechanism is independent from the plurality of applications and allows use of new command objects without modifying the application;

a data retriever mechanism in communication with the data handler mechanism, the data retriever mechanism being arranged to obtain the data and to pass the data to the data handler mechanism; and

a mapping mechanism in communication with the data handler mechanism, the mapping mechanism being substantially separate from the data handler mechanism, the mapping mechanism being arranged to obtain the command object, wherein the mapping mechanism is associated with the plurality of applications and is arranged to obtain the command object without directly involving the selected application.

REMARKS

The Applicants gratefully acknowledge the telephone conference with the Examiner on July 10, 2001. The Examiner agreed that clarification of the claim language relating to the interface would overcome the Colter (U.S. 5,303,361) 35 U.S.C. 103(a) rejection. The Applicants have consequently amended independent claims 1, 9, 16, and 23 to clarify the claim language and overcome the prior art rejections as agreed upon during the telephone conference.

Support for the amendments can be found in Figures 1, 7 and on page 7, lines 18-25 of the specification, stating that “a framework which enables an application to be ‘blind’ to the process of binding data with an appropriate command object allows new types of data and therefore, new command objects, to be created for use with the application without requiring that the application be modified to recognize the new command objects.”

As discussed during the telephone conference, Colter does not teach or suggest an interface “allowing the use of new command objects without modifying the application.” By contrast, Colter describes a user manually invoking a software application by loading the application corresponding to the viewer (Column 2, lines 33-36) or the application itself loading an appropriate viewer (Column 2, lines 36-39). Applicants understand that the Colter description requires that the application itself be modified in order to use a new command object such as a new viewer. Applicants are unaware of any description in Colter that teaches or suggests an interface that allows the use of command objects without modifying the application. According to claims 9, 16, and 25, the interface is “independent from the application” and allows the use of new command objects without modifying the application. According to claim 1, the interface is a “generic interface” that allows the use of new command objects without modifying the application.

The amendments have been made for clarification purposes, and Applicants do not believe the amendments are necessary for reasons related to patentability of the present invention. The language that is now explicit is believed implicit in the original submitted claims.

In view of the remarks noted above, the Applicants believe the rejections to base claims 1, 9, 16, and 23 have been traversed thereby placing claims 2-8, 10-15, 17-22, and 24-27 in condition for allowance in their present form for at least the reasons noted above.

In view of the above, Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. If the Examiner has any questions or concerns, please feel free to contact the undersigned at the telephone number set out below.

If any fees are due in connection with the filing of this amendment, the Commissioner is authorized to charge such fees to Deposit Account 50-0388 (Order No. SUN1P123). A duplicate

copy of the transmittal is enclosed for this purpose.

Respectfully submitted,
BEYER WEAVER & THOMAS, LLP

A handwritten signature in black ink, appearing to read "Godfrey K. Kwan", written over the printed name.

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APPENDIX

1. (Amended) A computer-implemented framework for associating data with a command object, the command object being arranged to operate on the data, wherein the data is associated with an application, the computer-implemented framework comprising:

a data handler mechanism arranged as a generic interface with the application, wherein the generic interface allows use of new command objects without modifying the application;

a data retriever mechanism in communication with the data handler mechanism, the data retriever mechanism being arranged to obtain the data and to pass the data to the data handler mechanism; and

a mapping mechanism in communication with the data handler mechanism, the mapping mechanism being separate from the data handler mechanism, the mapping mechanism being arranged to obtain the command object, wherein the command object is obtained by the mapping mechanism based substantially on the data.

2. A computer-implemented framework according to claim 1 wherein the data is a stream of bytes, and the data handler mechanism is further arranged to bind the stream of bytes to the command object.

3. A computer-implemented framework according to claim 1 wherein the data retriever mechanism includes a data content handler mechanism in communication with the data handler mechanism, the data content handler mechanism being arranged to convert the data into a data object, wherein the data handler mechanism is further arranged to bind the data object to the command object.

4. A computer-implemented framework as recited in claim 3 wherein the data object is created using the Java™ programming language, and the command object is a Java™ command object.

5. A computer-implemented framework as recited in claim 1 wherein the data is one of text data and image data.

6. A computer-implemented framework as recited in claim 1 wherein the data handler is further arranged to receive a request from the application, to bind the data to the command object, and to return the command object to the application.
7. A computer-implemented framework as recited in claim 1 wherein the data retriever includes a data source mechanism arranged to obtain a stream of bytes and a data content handler mechanism arranged to convert the stream of bytes into a data object, the data source mechanism being in communication with the data content handler mechanism, wherein the data handler mechanism is further arranged to bind the data object to the command object.
8. A computer-implemented framework as recited in claim 1 wherein the mapping mechanism includes a look-up table arranged to associate the command object with the data.
9. (Amended) A computer-implemented method for associating data with a command object in response to a request from an application, the method comprising:
- accessing the data through an interface in response to the request from the application, the interface being independent from the application and in communication with the application, wherein the request from the application is processed by the interface, the interface allowing use of new command objects without modifying the application;
 - accessing a mapping mechanism which is in communication with the interface, the mapping mechanism being independent from the application such that the mapping mechanism is not a component of the application, the mapping mechanism being maintained separately from the interface, the mapping mechanism further being arranged to locate a command object that is appropriate for the data, wherein the mapping mechanism is accessed by the interface;
 - obtaining the command object that is appropriate for the data, wherein the mapping mechanism obtains the command object and passes the obtained command object to the interface;
 - binding the command object to the data, wherein the interface binds the command object to the data; and
 - returning the command object to the application, wherein the interface returns the command object to the application.

10. A computer-implemented method as recited in claim 9 wherein accessing the data through an interface includes:

passing a stream of bytes to a data content handler mechanism arranged to create a data object from the stream of bytes; and

passing the data object to the interface, wherein the data is the data object.

11. A computer-implemented method as recited in claim 10 wherein the data object is created using the Java™ programming language, and the command object is a Java™ command object.

12. A computer-implemented method as recited in claim 9 wherein accessing the data through the interface includes accessing a data retriever which is arranged to obtain the data, wherein the data is a stream of bytes.

13. A computer-implemented method as recited in claim 9 further including operating on the data using the command object.

14. A computer-implemented method as recited in claim 9 wherein the command object that is appropriate for the data is selected from a set of command objects associated with a command list, the command list being associated with the data, the method further including accessing the command list, wherein the command list is accessed by the interface.

15. A computer-implemented method as recited in claim 14 wherein accessing the command list includes receiving a request for a command list from the application, the request for the command list being received by the interface, wherein the interface performs the steps of:

obtaining a type associated with the data;

obtaining the command list through the mapping; and

returning the command list to the application.

16. (Amended) A computer program product for associating data with a command object in response to a request from an application, the computer program product comprising:

computer code for accessing the data through an interface in response to the request from the application, the interface being independent from the application and in communication with the application, wherein the request from the application is processed by the interface, the interface allowing use of new command objects without modifying the application;

computer code for accessing a mapping mechanism which is in communication with the interface, the mapping mechanism being independent from the application such that the mapping mechanism is not a part of the application, the mapping mechanism further being separately maintained from the interface, the mapping mechanism further being arranged to locate a command object that is appropriate for the data, wherein the mapping mechanism is accessed by the interface;

computer code for obtaining the command object that is appropriate for the data, wherein the mapping mechanism obtains the command object and passes the obtained command object to the interface;

computer code for binding the command object to the data, wherein the interface binds the command object to the data;

computer code for returning the command object to the application, wherein the interface returns the command object to the application; and

a computer-readable medium that stores the computer codes.

17. A computer-readable medium as recited in claim 16 wherein the computer program code devices configured to cause the computer to access the data through an interface include computer program code devices configured to cause a computer to execute the steps of:

passing a stream of bytes to a data content handler mechanism arranged to create a data object from the stream of bytes; and

passing the data object to the interface, wherein the data is the data object.

18. A computer-readable medium as recited in claim 17 wherein the data object is created using the Java™ programming language, and the command object is a Java™ command object.

19. A computer-readable medium as recited in claim 16 further including computer program code devices configured to cause the computer to operate on the data using the command object.

20. A computer-readable medium as recited in claim 16 wherein the command object that is appropriate for the data is selected from a set of command objects associated with a command list, the command list being associated with the data, the computer-readable medium further including computer code devices configured to cause the computer to access the command list through the interface.

21. A computer-implemented framework according to claim 1 wherein the command object is obtained by the mapping mechanism based substantially on the data without an external input from a user of the application.

22. A computer-implemented framework according to claim 1 wherein the command object is obtained by the mapping mechanism based substantially on the data without directly involving the application.

23. (Amended) A computer-implemented framework for associating data with a command object, the command object being arranged to operate on the data, wherein the data is associated with a selected application, the computer-implemented framework comprising:

a data handler mechanism arranged to interface with a plurality of applications, the plurality of applications including the selected application, wherein the data handler mechanism is independent from the plurality of applications and allows use of new command objects without modifying the application;

a data retriever mechanism in communication with the data handler mechanism, the data retriever mechanism being arranged to obtain the data and to pass the data to the data handler mechanism; and

a mapping mechanism in communication with the data handler mechanism, the mapping mechanism being substantially separate from the data handler mechanism, the mapping mechanism being arranged to obtain the command object, wherein the mapping mechanism is associated with the plurality of applications and is arranged to obtain the command object without directly involving the selected application.

24. A computer-implemented framework as recited in claim 23 wherein the mapping mechanism and the data handler mechanism are separately maintained.

25. A computer-implemented framework as recited in claim 23 wherein the mapping mechanism is not a component of the data handler mechanism.

26. A computer-implemented framework as recited in claim 1 wherein the mapping mechanism and the data handler mechanism are separately maintained.

27. A computer-implemented framework as recited in claim 1 wherein the mapping mechanism is not specific to the application while the data handler mechanism is substantially specific to the application.